E. Kang: File

Stan Schneider

CORTEZ III SERVICE CORPORATION
NASA/GODDARD SPACE FLIGHT CENTER
CODE 239, BLDG 27
GREENBELT, MD 20771
FAX (301) 286-1774

DATE: March 5, 2001 **_____ #PAGES (including cover sheet)**

TO: Stanley R. Schneider
AT: _____
PHONE (VOICE/FAX) _____

FROM: ODELL YOUNG, IMPORT/EXPORT SPECIALIST
PHONE: (301) 286-6388
EMAIL: oyoung@pop200.gsfc.nasa.gov

IF YOU DO NOT RECEIVE ALL TRANSMITTED SHEETS, PLEASE CALL
(301) 286-6388

Comments:

Dept. of State Case TAA369-01

Mr. Schneider,
Please review the attached case and advise if it is in accordance with your program requirements.
Your reply via email within the next seven days will be appreciated.

ODELL

DTC CASE REFERRAL DOCUMENT

ADMIN USE	DATE STAFFED	DTC CASE NUMBER
MP	FEB 29 2001	TA 036401

APPLICANT:

	Advisory Opinion	X	Agreement - [Mfg], [Tech Assist],]Distribution]		Brokering Request

DTC CASE OFFICER: ~~[illegible]~~
DTC Comments: Lt Col Desilva JLC

Recommendations and Comments Are Requested From:

X	DTRA/LD		NEA/RA		DRL/MLA		Transmittal Letter
							Attachments, stated on appl
X	NASA		EAP/RSP		OES		Tech data/Descrip Literature
							Statement of Work
	ENERGY		[redacted]		PM/RSAT		Order/Ltr of Intent/Contract
							Copy of Agreement
	DOT/USCG		AF/RA		NP/CBM		Copy of previous Approvals
							End Use Certificate/DSP-83
[redacted]			WHA/PPCP		DTC/CEB		Import Authorization
							Other (videocassette, etc.)
	L/PM		SA/RA		DTC/		Nothing
							# of Collated Sets
	PKRC		EUR/PRA	X	PM/ECNP		

REPLY HERE AND RETURN TO DEPARTMENT OF STATE, OFFICE OF DEFENSE TRADE CONTROLS, WASHINGTON, D.C. 20520-0206. Recommendations within 25 working days of date staffed are appreciated. **PROVIDE COMMENTS FOR ANY RECOMMENDATION TO DENY OR RETURN WITHOUT ACTION (RWA).**

RECOMMENDATION & COMMENTS:

	APPROVE		APPROVE *WITH* PROVISO		RWA		DENY

COMMENTS: NPOESS Contract DoD, NASA, Commerce Integrated Program Office (IPO)

Typed/Printed NAME AND OFFICE SYMBOL SIGNATURE

DATE: Telephone Number:

INTEGRAL
SYSTEMS

5000 Philadelphia Way • Lanham • Maryland • 20706-4417 • U.S.A.
Telephone: 301.731.4233 • Fax: 301.731.9606 • Internet: sales@integ.com • Web: http://www.integ.com

February 9, 2001

Applicant Code: 0801-6474

Mr. William J. Lowell
Director, Office of Defense Trade Controls
DTC, SA-6, RM 200
Department of State
Washington, D.C. 20522-0602

Subject: Proposed Technical Assistance Agreement for the Export of Technical Data and Defense Services Relating to the NPOESS Program

Dear Mr. Lowell:

Submitted herewith are ten copies of this letter and a proposed Technical Assistance Agreement ("TAA"), **collated into ten sets,** between Integral Systems, Inc. (hereinafter "Integral Systems" or "applicant"); the Saab-Ericcson Space AB (hereinafter referred to as "SAAB"); and Austrian Aerospace (hereinafter referred to as "AUSTRIAN AEROSPACE"). (SAAB and AUSTRIAN AEROSPACE will be collectively referred to as "licensees".)

In accordance with 22 CFR 124.12, the following information is provided:

(a)(1) Integral Systems' DTC applicant code is: 0801-6474.

(a)(2) Identification of Licensees and Scope of the Agreement:

SAAB-ERICCSON SPACE AB ("SAAB")

Below is an excerpt from the website of SAAB. For more information including SAAB product information, see http://outer.space.se/.

> "Saab Ericsson Space develops, manufactures and markets spacecraft equipment. The company's specialist fields are digital and microwave technologies and mechanics. The company, headquartered in Göteborg, Sweden, has a division in Linköping, Sweden, and subsidiaries in Vienna, Austria, and Washington, DC, USA. Employees total about 650. In 1999, net sales amounted to SEK 676 million and the company received orders worth SEK 706million.
>
> Saab Ericsson Space operates both within government financed markets such as the European Space Agency and NASA, and commercial markets for telecommunications

and launchers. The company's main customers are today found in France, the USA and Italy.

The Saab and Ericsson Groups jointly own Saab Ericsson Space. Saab operates within the international market for defense, aerospace and other high-tech areas, and Ericsson is the world leader in telecommunications. The two parent companies' in-depth knowledge of their markets and high-level skills in their fields of operation provide Saab Ericsson Space with a unique platform for its activities. The parent companies have applied a long-term approach to their engagement in the space field since the 60s, enabling Saab Ericsson Space to establish itself as one of the world's leading companies in its selected specialties.

1000 failure-free years in orbit

Saab Ericsson Space continuously makes substantial investments in products and systems associated with its core business. The company's range of products covers applications within telecommunications, earth observation, scientific missions and launch vehicles. Its strategy is to design and manufacture products in close cooperation with customers and organizations.

Saab Ericsson Space's product portfolio consists of:

- Command and Data handling, Computers and Processors, Payload and Instrument Control, Payload Processing, Mass Memories, Support Technologies and Software.
- Wide Coverage Antennas, Reflector Antennas, Array Antennas.
- Receivers, Frequency Converters, Frequency Generators, Modulators.
- Adapters and Separation Systems, Satellite and Guidance Systems, Structures and Dispensers, Harness.

Saab Ericsson Space's production capabilities are under continuous development and currently include an up-to-date and highly automated production line, cleanroom facilities of various classes, a number of in-door test facilities and antenna test ranges. The philosophy followed by the company's electrical, mechanical and production engineers focuses on furnishing cost-effective and commercially competitive design solutions."

AUSTRIAN AEROSPACE ("AUSTRIAN AEROSPACE")

Below is an excerpt from the website of Austrian Aerospace. For more information including GPS-related product information, see www.space.at. Please note that AUSTRIAN AEROSPACE is a subsidiary of SAAB.

"The business mission of Austrian Aerospace is to market, develop and manufacture satellite equipment for the global space industry, that strengthen and support the competitiveness of our customers.

An additional purpose is to offer our employees continuous competence

development in a stimulating, socially advanced and safe environment.

To succeed with our mission, we have chosen two main strategies:

- Partnership
- First-class performance

Partnership with customers means that we in each business opportunity shall understand the customer's needs, and act to satisfy them. With our strategic customers, we identify future needs in order to develop tomorrow's products. In our growing activities on the commercial market, we enter partnership through long-term agreements, if so requested.

Partnership means also that we offer our application knowledge to customers within communication, navigation and observation programs, and that we co-operate with the scientific community within science and observation programs.

First-class performance means that we offer products with highest reliability and functional performance, and with shortest lead-time. This implies that we have available up-to-date technology and developed products. First-class performance also stands for quality, in the sense that we shall meet all agreed requirements on products and services at the lowest possible cost and that we continuously improve."

Overview of NPOESS Program

The Program Definition and Risk Reduction ("PDRR") Phase

LMC is currently under contract - number F04701-00-C-0501 - with the IPO. The contract is for the NPOESS Program Definition and Risk Reduction (PDRR) phase to provide a single, national polar-orbiting remote sensing capability to acquire, receive, and disseminate global and regional environmental data. A similar competitive PDRR contract was awarded to TRW by the NPOESS IPO, and a competitively selected contract will be awarded for the Engineering and Manufacturing Development (EMD)/Production phase in March of 2002. The PDRR phase will end on 30 March 2002 or, if an option to the contract is exercised, on 31 December 2002.

One element of the PDRR phase involves the definition of spacecraft operation tasks, data to be exchanged, spacecraft sensor interfaces, algorithms and supporting data for science data processing during EMD. A second element of the PDRR phase is the exchange of technical data and provision of defense services to NSC/TELENOR to prepare a proposal for the EMD phase of the contract.

The Engineering and Manufacturing Development ("EMD")/Production Phase

The next phase in the NPOESS program, the EMD/Production, will call for the building of five satellites by LMC and one satellite (METOP) by ESA/EUMETSAT. During this phase, LMC will provide technical data and defense services to resolve issues arising during sensor

integration and science data processing. If selected for EMD, LMC will amend this TAA to accommodate these additional tasks and will apply for the appropriate licenses for the export and import of hardware.

Duration of the TAA
The duration of the TAA is valid through December 31, 2005.

(a)(3) The technical data being provided by Integral Systems to the licensees is information that is being generated. improved, or developed and supplied to the U.S. Government. Please refer to the TAA submitted by Lockheed Martin Missiles & Space for the NPOESS project. It may contain information regarding whether any information being provided by other parties was generated, improved, or developed and supplied to the U.S. Government.

Integral Systems' effort consists of integrating the software with standard commercially available computing hardware components, such as computer workstations, storage devices, and internetworking components.

None of the technical data being provided by Integral Systems was derived from a bid or other proposal to the U.S. Government. However, please refer to the TAA submitted by Lockheed Martin Missiles & Space for the NPOESS project. It may contain information regarding whether any information being provided by other parties was derived from a bid or other proposal to the U.S. Government.

(a)(4) The highest U.S. military security classification of the technical data to be transferred under the terms of this agreement is: unclassified.

(a)(5) There are no patent applications that disclose any of the subject matter of the technical data. Furthermore, the technical data is not covered by an invention secrecy order issued by the U.S. Patent and Trademark Office.

(a)(6) This agreement has an estimated value of **$775,000** that is based on the amount that Integral Systems will receive from Lockheed Martin for the software, hardware and services to be performed under the NPOESS subcontract between Lockheed Martin and Integral Systems.

Neither Integral Systems, SAAB nor AUSTRIAN AEROSPACE have paid, or offered or agreed to pay, in respect of the sale for which this application is being submitted:

(i) political contributions in an aggregate amount of $5,000 or more, or
(ii) fees or commissions in an aggregate amount of $100,000 or more.

The following items comprise Integral Systems' price for the NPOESS effort

Description	Value
Engineering Labor and Travel	$775,000
Total	**$775,000**

(a)(7) No foreign military sales credits or loan guarantees are or will be involved in financing this agreement.

(a)(8) This agreement does not involve the transfer of any classified information.

(a)(9) Integral Systems is not providing information about Integral Systems' cognizant security office of the Defense Investigative Service because the agreement will not involve the export of classified information.

REQUIRED STATEMENTS:

(b)(1) "If the agreement is approved by the Department of State, such approval will not be construed by the applicant as passing on the legality of the agreement from the standpoint of antitrust laws or other applicable statutes, nor will the applicant construe the Department's approval as constituting either approval or disapproval of any of the business terms or conditions between the parties to the agreement."

(b)(2) "The applicant will not permit the proposed agreement to enter into force until it has been approved by the Department of State."

(b)(3) "The applicant will furnish the Department of State with one copy of the signed agreement (or amendment) within 30 days from the date that the agreement is concluded and will inform the Department of its termination not less than 30 days prior to the expiration and provide information on the continuation of any foreign rights or the flow of technical data to the foreign party. If a decision is made not to conclude the proposed agreement, the applicant will so inform the Department within 60 days."

(b)(4) "If this agreement grants any rights to sub-license, it will be amended to require that all sub-licensing arrangements incorporate all the provisions of the basic agreement that refer to the U.S. Government and the Department of State (i.e., 22 CFR 124.8 and 124.9)."

The agreement does not grant licensees the right to sub-license any of the exported technical data or subcontract the services requested by the Integral Systems of the licensees.

Reference List of Relevant ITAR Sections

To facilitate U.S. Government consideration of this request, the agreement contains the following provisions currently required by the ITAR:

Pursuant to 22 CFR 124.7:

CFR Section Agreement Reference

124.7(l) – Located in Article II (1) labeled "ITAR 124.7" on page 4
124.7(2) – Located in Article II (2) labeled "ITAR 124.7" on page 4
124.7(3) – Located in Article II (3) labeled "ITAR 124.7" on page 5
124.7(4) – Located in Article II (4) labeled "ITAR 124.7" on page 5

Pursuant to 22 CFR 124.8:

CFR Section Agreement Reference

124.8(l) – Located in Article III (1) labeled "ITAR 124.8" on page 5
124.8(2) – Located in Article III (2) labeled "ITAR 124.8" on page 5
124.8(3) – Located in Article III (3) labeled "ITAR 124.8" on page 5
124.8(4) – Located in Article III (4) labeled "ITAR 124.8" on page 5
124.8(5) – Located in Article III (5) labeled "ITAR 124.8" on page 5
124.8(6) – Located in Article III (6) labeled "ITAR 124.8" on page 5

This agreement relates to the following U.S. Munitions List categories: XV. This category is not designated as Significant Military Equipment (SME) unless the articles or services are intended for use by the armed forces of a foreign country. The defense articles and technical data being exported is not intended for use by the armed forces of a foreign country.

This communication contains information that is exempt from release pursuant to Exemption 4 of the Freedom of Information Act, 5 U.S.C. 552(b)(4) because its disclosure would cause substantial competitive harm. We understand that you will be provided notice of a receipt of any requests made under the Act. See also 22 CFR 171.16.

If you require additional information, please contact the undersigned at telephone number (301) 731-4233, extension 4109.

Sincerely,

Patrick Woods
Vice President, Government Programs

Attachments:

Certification Letter, per 126.13
Proposed Agreement including Attachment A

INTEGRAL
SYSTEMS

5000 Philadelphia Way • Lanham • Maryland • 20706-4417 • U.S.A.
Telephone: 301.731.4233 • Fax: 301.731.9606 • Internet: sales@integ.com • Web: http://www.integ.com

February 9, 2001

Mr. William J. Lowell
Director, Office of Defense Trade Controls
DTC, SA-6, RM 200
Department of State
Washington, D.C. 20522-0602

Subject: Certification Letter Required by 22 CFR 126.13

Dear Mr. Lowell:

I, the undersigned, am a U.S. person as defined in 22 CFR 120.15 and I am a responsible official empowered by the applicant to certify the following in compliance with 22 CFR 126.13:

1. Neither the applicant, its chief executive officer, president, vice presidents, other senior officers or officials (e.g. comptroller, treasurer, general counsel) nor any member of its board of directors is:

   a. the subject of an indictment for or has been convicted of violating any of the U.S. criminal statutes enumerated in 22 CFR 120.27 since the effective date of the Arms Export Control Act, Public Law 94-329, 90 Stat. 729 (June 30, 1976); or
   b. ineligible to contract with, or to receive a license or other approval to import defense articles or defense services from, or to receive an export license or other approval from any agency of the U.S. Government;

2. To the best of the applicant's knowledge, no party to the export as defined in Section 126.7(e) has been convicted of violating any of the U.S. criminal statutes enumerated in 22 CFR 120.27 since the effective date of the Arms Export Control Act, Public Law 94-329, 90 Stat. 729 (June 30, 1976), or to receive a license or other approval to import defense articles or defense services from, or to receive an export license or other approval from any agency of the U.S. Government, and

3. The natural person signing the application for the license or other request for approval is a responsible official who has been empowered by the applicant and is a citizen of the United States.

Sincerely,

Thomas L. Gough
President

TECHNICAL ASSISTANCE AGREEMENT

BETWEEN

LOCKHEED MARTIN MISSILES & SPACE

AND

SAAB-ERICSSON SPACE AB, Sweden,

And

AUSTRIAN AEROSPACE, Austria

This Agreement is entered into between Integral Systems, Inc. (hereinafter referred to as "INTEGRAL SYSTEMS") with offices at 5000 Philadelphia Way, Lanham, Maryland, United States of America, 20706, and Saab-Ericcson AB (hereinafter referred to as "SAAB") whose office is situated at S-405 15 Göteberg, Sweden, and Austrian Aerospace (hereinafter referred to as "AUSTRIAN AEROSPACE") whose office is situated at Bretenfurter Strasse 106-108, A-1120 Vienna, Austria, and is effective upon the date of signature of the last party to sign the Agreement. INTEGRAL SYSTEMS, SAAB, and AUSTRIAN AEROSPACE are hereinafter referred to as the Parties.

WHEREAS, Lockheed Martin Missiles and Space ("LMC") is under contract (Number F04701-00-C-0501) with the Integrated Program Office comprised of Department of Commerce, NASA and the Department of Defense (see Statement of Work), and

WHEREAS, INTEGRAL SYSTEMS is under subcontract (No. HE01L4701A) to the Lockheed Martin Corporation ("LMC") for the design, development and integration of the NPOESS Satellite Operations Center ("SOC") and Environmental Satellite Operations Center ("ESOC");

WHEREAS, LMC desires to exchange technical data and provide defense services to SAAB and AUSTRIAN AEROSPACE relating to (1) the requirements to integrate the Global Positioning System Occultation Sensor ("GPSOS") onto the LMC baseline satellite for the National Polar-orbiting Operational Environmental Satellite System ("NPOESS") and (2) the requirements to evaluate the performance of the algorithms for the retrieval of environmental parameters, and

WHEREAS, INTEGRAL SYSTEMS will be participating in meetings between LMC, SAAB and AUSTRIAN AEROSPACE, and

WHEREAS, the IPO and LMC will obtain their own import and export licensing from the Department of State as required, and

WHEREAS, SAAB is under contract with the IPO to provide both the GPSOS and its retrieval algorithms for environmental parameters, and

WHEREAS, AUSTRIAN AEROSPACE is under a subcontract to SAAB to help in the development of the hardware for the GPSOS, and

WHEREAS, it is the intent of the IPO to provide the GPSOS to the contractor (either LMC or TRW) selected for the Engineering and Manufacturing Development ("EMD") phase of NPOESS, and

WHEREAS, SAAB and AUSTRIAN AEROSPACE desire to receive technical data and defense services related to the integration of the GPSOS and its retrieval algorithms onto the LMC baseline satellite designed for NPOESS,

NOW THEREFORE, the parties desire to enter into this Technical Assistance Agreement as follows:

I. PURPOSE

1. This Technical Assistance Agreement is intended to enable INTEGRAL SYSTEMS to perform defense services and disclose technical data during the Program Definition and Risk Reduction ("PDRR") Phase in support of the requirements to integrate the GPSOS sensor onto the baseline NPOESS satellites and to evaluate the requirements for the retrieval of environmental parameters from the GPSOS.

While there are several phases to the NPOESS program, Integral Systems, Inc. is currently under contract (number # HE01L4701A) with LMC to provide the engineering and materials for design, development, integration, and test of the Satellite Operations Center (SOC) for the NPOESS system. As related to the SOC design, Integral Systems, Inc. may participate in discussions that LMC has with SAAB and AUSTRIAN AEROSPACE. However, the information below is provided as an overview of the entire NPOESS program and the possible information that might be discussed during the NPOESS-related meetings between the Parties.

(a) The Development of Environmental Sensors

Beginning in 1997, the IPO issued contracts for the development of five major sensors that are to be integrated on future NPOESS satellites. An important element of the contracts is the ultimate delivery to the IPO of the sensor plus algorithms that allow environmental parameters to be retrieved from the remotely-sensed data. One of the contracts is with SAAB for the development of the GPSOS and its retrieval algorithms. SAAB and its subcontractor, AUSTRIAN AEROSPACE, will continue the development of the GPSOS during the current Phase of their contract which extends with options beyond 2005.

(b) The Program Definition and Risk Reduction

LMC is currently under contract (number #F04701-00-C-0501) with the IPO. The contract is for the NPOESS Program Definition and Risk Reduction ("PDRR") phase to provide a single, national polar-orbiting remote sensing capability to acquire, receive, and disseminate global and regional environmental data. A similar competitive PDRR contract was awarded to TRW by the NPOESS IPO, and a down-select contract will be awarded to either LMC or TRW for the Engineering and Manufacturing Development (EMD)/Production phase of the NPOESS program. One element of the PDRR contract is to reduce the risk of integrating the five NPOESS sensors, including GPSOS, onto the baseline of the LMC satellite. The PDRR phase will end on 30 March 2002 or, if an option to the contract is exercised, on 31 December 2002.

The primary exchange of information to be carried our under this TAA will take place during the PDRR phase of the NPOESS program - namely from 1 March 2000 through 31 December 2002. The exchange of data includes the requirements for (1) spacecraft to GPSOS instrument interface specifications, (2) test plans and procedures specific to the GPSOS interface and instrument performance, and (3) interface drawings and analysis for instrument specific mechanical, thermal, electrical, data processing, flight software and fields-of-view analysis (optical, radio frequency, and thermal). In addition, the expected performance of the algorithms to retrieve environmental parameters using data from the GPSOS is required information to be provided by SAAB to LMC.

(c) The Engineering and Manufacturing Development (EMD)/Production

The next phase in the NPOESS program, the EMD/Production, will call for the building of three satellites with an option to build four additional satellites. Although the sensor complement for each of the satellites is variable, the plan is to incorporate a GPSOS sensor on each of the seven NPOESS satellites. At an early stage in the EMD/Production phase, the IPO will transfer the responsibility for the operation, maintenance, upgrading, and performance of the sensors to the successful EMD/Production contractor; i.e. either LMC or TRW. If the LMC/INTEGRAL SYSTEMS team is selected for the EMD phase, INTEGRAL SYSTEMS will amend this TAA to accommodate these additional tasks.

2. It is understood that this Technical Assistance Agreement is entered into as required under U.S. Government regulations and, as such, it is an independent agreement between the parties, the terms of which will prevail, notwithstanding any conflict or inconsistency that may be contained in other arrangements between the Parties on the subject matter.

3. The parties agree to comply with all applicable sections of the International Traffic in Arms Regulations (ITAR) of the U.S. Department of State and that, more

particularly, in accordance with such regulations the following conditions apply to this Agreement:

4. It is understood that disclosure of information by SAAB to INTEGRAL SYSTEMS is subject to any rules, restrictions or laws of Sweden. It is understood that disclosure of information by AUSTRIAN AEROSPACE to INTEGRAL SYSTEMS is subject to any rules, restrictions or laws of Austria.

5. Technical data relating to this program may be exchanged with SAAB and/or AUSTRIAN AEROSPACE contractors/subcontractors provided that, prior to the release of any technical data, SAAB executes a Non-Disclosure Agreement (NDA) with each company. The NDA will incorporate all of the provisions of the basic Agreement which refer to the U.S. Government and the Department of State (i.e., 22 CFR 124.8 and/or 124.9). Copies of the executed NDAs referencing this Agreement by number will be provided to and maintained by INTEGRAL SYSTEMS for five years from the expiration of the Agreement.

II. ITAR 124.7

(1) Data to be exchanged includes that necessary to integrate a GPSOS instrument and its retrieval algorithms with an NPOESS baseline spacecraft. Such data includes the requirements for (1) spacecraft to instrument interface specifications, (2) test plans, procedures and resulting data specific to the instrument interface and instrument performance, and (3) interface drawings and analysis for instrument specific mechanical, thermal, electrical, data processing, flight software and fields-of-view analysis (optical, radio frequency, and thermal) (see attachment A, Statement of Work).

All technical data and defense services transferred by SAAB and AUSTRIAN AEROSPACE to INTEGRAL SYSTEMS under this Agreement pertains solely to the performance of retrieval algorithms and the interface between the LMC architecture of the baseline spacecraft and the GPSOS instrument and does not represent a transfer of technical data or defense services specific to the design, manufacture, assembly or test of the NPOESS spacecraft itself. LMC will transfer to SAAB and AUSTRIAN AEROSPACE software interface specifications pertaining to GPSOS specific flight software data processing and ground support. No LMC software code or algorithms will be exchanged.

(2) The technical assistance and data to be provided under this agreement includes all tasks associated with (1) the requirements for the GPSOS algorithms for the retrieval of environmental parameters, and (2) the specifications for receiving, inspecting, bench level testing, installing on the baseline spacecraft, aligning on the baseline spacecraft, functionally verifying the instrument-to-spacecraft interface via spacecraft level testing and storing. Additionally, LMC will assist SAAB in establishing the methodology for the review of instrument level and spacecraft level interface test data and anomaly resolution as required.

(3) The agreement is valid through 31 December 2005.

(4) The effort intended to be accomplished under this agreement will take place in Sweden, Austria, or the United States of America. There is no other country or area in which manufacturing, processing, sale or other form of transfer is to be licensed.

III. ITAR 124.8

(1) This Agreement shall not enter into force and shall not be amended or extended without the prior written approval of the Department of State of the U.S. Government.

(2) This Agreement is subject to all United States laws and regulations relating to exports and to all administrative acts of the U.S. Government pursuant to such laws and regulations.

(3) The Parties to this Agreement agree that the obligations contained in this Agreement shall not affect the performance of any obligations created by prior contracts or subcontracts which the Parties may have individually or collectively with the U.S. Government.

(4) No liability will be incurred by or attributed to the U.S. Government in connection with any possible infringement of privately owned patent or proprietary rights, either domestic or foreign, by reason of the U.S. Government's approval of this Agreement.

(5) The technical data or defense service exported from the United States in furtherance of this Agreement and any defense article which may be produced or manufactured from such technical data or defense service may not be transferred to a person in a third country or to a national of a third country except as specifically authorized in this Agreement unless the prior written approval of the Department of State has been obtained.

(6) All provisions in this Agreement which refer to the United States Government and the Department of State will remain binding on the Parties after the termination of the Agreement.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed effective as of the day and year above provided.

Integral Systems, Inc.
By _____

Printed Name _____

Title _____

Date _____

Saab-Ericsson Space AB
By _____

Printed Name _____

Title _____

Date _____

Austrian Aerospace
By _____

Printed Name _____

Title _____

Date _____

Attachment A –

STATEMENT OF WORK

Between

Lockheed Martin Missiles & Space ("LMC")

And

Integral Systems, Inc.

And

Saab-Ericsson Space AB, Sweden ("SAAB"),

And

Austrian Aerospace, Austria

For the
Global Positioning System Occultation Sensor (GPSOS)

TABLE OF CONTENTS

1.0 INTRODUCTION

This Technical Assistance Agreement is intended to enable INTEGRAL SYSTEMS to perform defense services and disclose technical data during the Program Definition and Risk Reduction ("PDRR") Phase in support of the requirements to integrate the GPSOS sensor onto the baseline NPOESS satellites and to evaluate the requirements for the retrieval of environmental parameters from the GPSOS.

There are several phases to the NPOESS program. **As related to the SOC design, Integral Systems, Inc. may participate in discussions that LMC has with SAAB and AUSTRIAN AEROSPACE. We does not anticipate playing an active role in LMC's meetings with SAAB and AUSTRIAN AEROSPACE. However, the information below is provided as an overview of the entire NPOESS program and the possible information that might be discussed during the NPOESS-related meetings between the Parties.**

(i) The Development of Environmental Sensors

Beginning in 1997, the IPO issued contracts for the development of five major sensors that are to be integrated on future NPOESS satellites. An important element of the contracts is the ultimate delivery to the IPO of the sensor plus algorithms that allow environmental parameters to be retrieved from the remotely-sensed data. One of the contracts is with SAAB for the development of the GPSOS and its retrieval algorithms. SAAB and its subcontractor, AUSTRIAN AEROSPACE, will continue the development of the GPSOS during the current Phase of their contract which extends with options beyond 2005.

(ii) The Program Definition and Risk Reduction

LMC is currently under contract (number #F04701-00-C-0501) with the IPO. The contract is for the NPOESS Program Definition and Risk Reduction ("PDRR") phase to provide a single, national polar-orbiting remote sensing capability to acquire, receive, and disseminate global and regional environmental data. A similar competitive PDRR contract was awarded to TRW by the NPOESS IPO, and a down-select contract will be awarded to either LMC or TRW for the Engineering and Manufacturing Development (EMD)/Production phase of the NPOESS program. One element of the PDRR contract is to reduce the risk of integrating the five NPOESS sensors, including GPSOS, onto the baseline of the LMC satellite. The PDRR phase will end on 30 March 2002 or, if an option to the contract is exercised, on 31 December 2002.

The primary exchange of information to be carried our under this TAA will take place during the PDRR phase of the NPOESS program - namely from 1 March 2000 through 31 December 2002. The exchange of data includes the requirements for (1) spacecraft to GPSOS instrument interface specifications, (2) test plans and procedures specific to the GPSOS interface and instrument performance, and (3) interface drawings and analysis for instrument specific mechanical, thermal, electrical, data processing, flight software and fields-of-view analysis (optical, radio frequency, and thermal). In addition, the expected

performance of the algorithms to retrieve environmental parameters using data from the GPSOS is required information to be provided by SAAB to LMC.

(iii) The Engineering and Manufacturing Development (EMD)/Production

The next phase in the NPOESS program, the EMD/Production, will call for the building of three satellites with an option to build four additional satellites. Although the sensor complement for each of the satellites is variable, the plan is to incorporate a GPSOS sensor on each of the seven NPOESS satellites. At an early stage in the EMD/Production phase, the IPO will transfer the responsibility for the operation, maintenance, upgrading, and performance of the sensors to the successful EMD/Production contractor; i.e. either LMC or TRW. If selected for the EMD phase, LMC will amend this TAA to accommodate these additional tasks.

2.0 SCOPE

The scope of this effort during the PDRR phase of the LMC contract with the IPO, consists of Lockheed Martin Missiles and Space (LMC) exchanging technical date and providing defense services to Saab Ericsson Space AB (SAAB) and Austrian Aerospace necessary for the development of the Global Position System Occultation Sensor (GPSOS). The GPSOS is currently under development by SAAB and AUSTRIAN AEROSPACE through a contract with the Integrated Program Office of the United States Government. The work will enable LMC, SAAB, and AUSTRIAN AEROSPACE to disclose technical data and provide defense services in support of (1) the integration of the GPSOS instrument onto the baseline architecture of the LMC satellite that is proposed for the National Polar-orbiting Operational Environmental Satellite System (NPOESS) and (2) the evaluation of the GPSOS algorithms for the retrieval of environmental parameters.

3.0 OBJECTIVE

The objective of the efforts is to exchange technical date and provide defense services associated with installing the GPSOS on an LMC baseline spacecraft. The work includes information on the requirements for (1) the alignment of the GPSOS on the spacecraft, (2) functionally verifying the instrument-to-spacecraft interface, and (3) verifying the performance to retrieve environmental data from simulated GPSOS data.

Such technical data to be exchanged includes, but is not limited to (1) spacecraft to instrument interface specifications, (2) test plans and procedures specific to the instrument interface and instrument performance, (3) interface drawings and analysis for instrument specific mechanical, thermal, electrical, data processing, flight software and fields-of-view analysis (optical, radio frequency, and thermal), and (4) algorithms for the retrieval of environmental parameters.

4.0 TASK DESCRIPTIONS

The following services and technical data are required in order to support (1) the integration of the SAAB/AUSTRIAN AEROSPACE GPSOS instrument on the baseline architecture of the LMC satellite for the NPOESS program and (2) the evaluation of the algorithms for the retrieval of environmental parameters.

4.1 LMC Interface Specifications and Drawings Applicable to GPSOS

4.1.1 Description

Review all SAAB and AUSTRIAN AEROSPACE GPSOS inputs to the draft Unique Instrument Interface Control Document ("ICD") and the General Instrument Interface Specification ("GIIS").

The task will include the following:

- Review the SAAB and AUSTRIAN AEROSPACE inputs to the Interface Control Documents and confirm that the Interfaces are compatible with the baseline architecture of the LMC NPOESS satellite,
- Review all interface drawings and analyses - prepared with joint input by LMC, SAAB, and AUSTRIAN AEROSPACE - applicable to GPSOS; these include:
  - Mechanical interfaces,
  - Thermal interfaces,
  - Electrical interfaces,
  - Fields-of-view (optical, thermal, and radio frequency), and spacecraft configuration

4.1.2 Approach

- LMC will analyze all GPSOS interface documents and ensure that the interfaces are consistent with the requirements of the LMC NPOESS satellite
- LMC will interface directly with SAAB and AUSTRIAN AEROSPACE personnel to resolve any discrepancies between the proposed GPSOS interfaces and the LMC satellite
- LMC will document their evaluation of the interface documents

4.1.3 Schedule

The review of the interface documents will occur between March and December of 2000.

4.2 Test Plans and Procedures Applicable to GPSOS

4.2.1 Description

Review all SAAB and AUSTRIAN AEROSPACE GPSOS test plans and procedures that are applicable to GPSOS

The task will include the requirements for the following tests and procedures:

- Instrument bench tests
- Spacecraft interface tests
- Spacecraft level tests
- Spacecraft environmental tests
- GPSOS instrument installation procedures

4.2.2 Approach

- LMC will analyze all proposed test plans and procedures that relate to the integration of the GPSOS onto an LMC satellite
- LMC will interface directly with SAAB personnel to resolve any discrepancies between the proposed GPSOS tests and LMC standard procedures
- LMC will document their evaluation of test procedures

4.2.3 Schedule

The review of the interface documents will occur between March 2000 and March of 2001.

4.3 Software Specifications applicable to GPSOS

4.3.1 Description

Review SAAB software specifications applicable to GPSOS

The task will include reviews of the following software specifications:

- Specifications of the ground processing of the GPSOS sensor data
- Interface specific flight software specifications

4.3.2 Approach

- LMC will analyze the specifications of the ground processing of data received from the GPSOS instrument
- LMC will review and analyze the software specifications for flight software between the GPSOS instrument and the LMC baseline satellite

4.3.3 Schedule

The review of the interface documents will occur between March 2000 and December 2001.

4.4 Host or Attend Meetings for the Exchange of Technical GPSOS Data

4.4.1 Description

Attend technical interchange meetings involving GPSOS

The task will include participation in the following types of reviews

- Design reviews
- Technical Interchange Meetings (TIMs)
- Test support reviews
- GPSOS and LMC satellite baseline data
- On-orbit anomaly review and resolution

4.4.2 Approach

- At the request of the NPOESS Integrated Program Office, INTEGRAL SYSTEMS will attend reviews and technical interchange meetings that are required to coordinate the integration of the GPSOS sensor onto an LMC baseline spacecraft.

4.4.3 Schedule

Interface meetings between SAAB, AUSTRIAN AEROSPACE, and INTEGRAL SYSTEMS will occur between March 2000 and December 2002.

5.0 DELIVERABLES

Reports of the major interchange meetings will be delivered to the NPOESS IPO within 30 days of each meeting. The first meeting is scheduled for March 13, 2000. Subsequent interchange meetings are planned at approximately six-month intervals through December 2002.